AD-A133 677 RECONNAISSANCE REPORT FOR KINLEY CREEK LEXINGTON COUNTY 1/1
SOUTH CAROLINA(U) CORPS OF ENGINEERS CHARLESTON SC
CHARLESTON DISTRICT JUL 83

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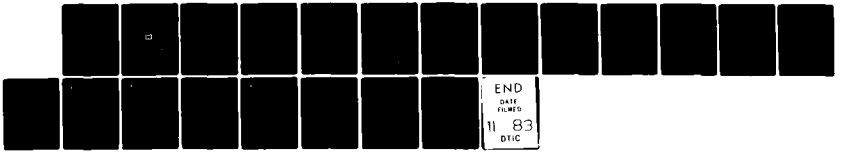

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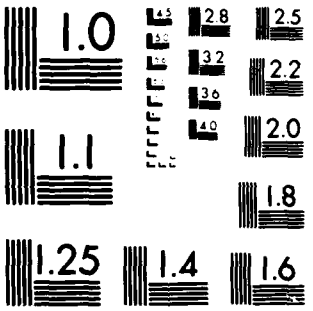

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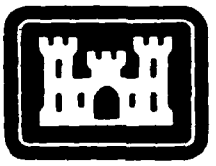
RECONNAISSANCE REPORT

FOR

KINLEY CREEK

LEXINGTON COUNTY, S.C.



US Army Corps
of Engineers
Charleston District

SECTION 205
OF THE
1948 FLOOD CONTROL ACT
AS AMENDED

JULY 1983

280

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A133 672	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Kinley Creek Richland County, South Carolina		5. TYPE OF REPORT & PERIOD COVERED Reconnaissance 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army Corps of Engineers Charleston District P.O. Box 919, Charleston, S. C.		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Corps of Engineers Office, Chief of Engineers Washington, D.C. 20314		12. REPORT DATE July 1983 13. NUMBER OF PAGES 15
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) U.S. Army Corps of Engineers South Atlantic Division 30 Pryor Street, S.W. Atlanta, Georgia 30303		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release: Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Prepared in cooperation with the Lexington County Council, S. C. and the U.S. Fish and Wildlife Service.		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Flood Control Enviromental Impact		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Reconnaissance report determines the advisability initiate detail studies. The report recommends approval of further study.		

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

KINLEY CREEK

LEXINGTON COUNTY, SOUTH CAROLINA

Section 205 Reconnaissance Report

Table of Contents

LIST OF TABLES

SACEN-PS 14 July 1983

SUBJECT: Reconnaissance Report, Kinley Creek, Lexington County, South Carolina

Commander, South Atlantic Division
ATTN: SADPD-P

AUTHORITY

1. This reconnaissance report was prepared under authority contained in Section 205 of the 1948 Flood Control Act, as amended. Subject report was initiated by letter to SADPD-P dated 25 March 1983, subject: Kinley Creek, Lexington County, South Carolina. Lexington County Council, the local sponsor, requested flood control assistance by two letters dated 8 March 1983 (See Inclosures 1 and 2).

SCOPE OF WORK

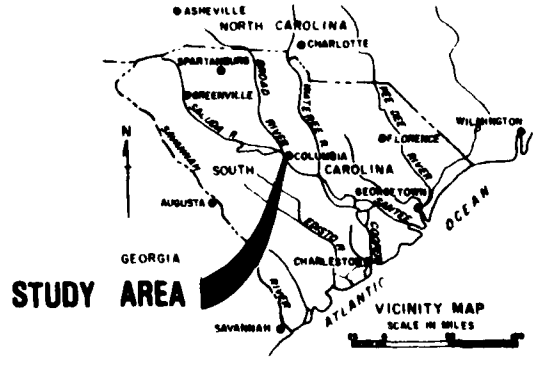
2. This report was prepared using readily available data, supplemented where necessary with additional field surveys and in-house studies. The purpose of this report is to determine the magnitude of existing water resource problems and the feasibility of further Federal involvement in formulating solutions to these problems. Due to the nature of this report, information contained herewith is considered preliminary and subject to revision should detailed investigation be authorized.

PRIOR REPORTS

3. There are no previous Corps reports available for the study area.

STUDY AREA DESCRIPTION

4. Location. Kinley Creek, a tributary of Saluda River, is located in the central portion of South Carolina in Lexington County, approximately five miles west of Columbia City limits.



5. Topography. The area is typical of small basins in the Piedmont region of South Carolina. Ground elevations vary from 180 feet to 410 feet NGVD. The drainage area for the entire basin is 7.0 square miles, with an average stream slope of 29 feet/mile.

6. Climate. There are no streamflow or rainfall gages in the basin. There are NOAA rainfall gages at the airport (43 years of record) and at the University of South Carolina (96 years of record). Columbia experiences mild winters and hot summers. Average temperatures in January are 45°F while the July temperatures average about 81°F. The average annual temperature is 63.8°F while the average annual rainfall is 46 inches per year.

7. Environmental Consideration. A preliminary assessment of environmental concerns of the study area is attached as Inclosure 3 to this report. A preliminary report from the U. S. Fish and Wildlife Service addressing wildlife habitat value of the area is Inclosure 4.

PROBLEMS UNDER CONSIDERATION

8. Flood Problems. Flooding is caused by the overflow of the main stem of Kinley Creek and its tributary K-2 which flows to the southeast of the town of Irmo and to the west northwest of the City of Columbia. The flood problems discussed in this report are based on information obtained from local officials as to specific areas of concern, topographic mapping with five-foot contour intervals, and a field reconnaissance by the Corps' study team. Local officials report that flooding has occurred, however, details of the damages suffered or information on frequencies were not furnished.

9. Average annual damage from residential flooding in the study area is estimated to be $206,000. The 100-year frequency flood will inundate the first floor of at least 63 structures. The value of these structures is estimated to be $4,315,000 and their contents to be valued at $2,158,000. Damage to these properties during a 100-year frequency event would be about $1,282,000.

10. No attempt has been made at this time to estimate flood damage to any other category; i.e., roads, bridges, emergency costs, etc.

11. There are possibly 200 structures located within the area of the Standard Project flood plain, however, only 63 are evaluated herein. More detailed analysis will be required to determine the exact number of structures.

12. Hydrologic Analysis. A hydrologic analysis for Kinley Creek and tributary K-2 was published in the Flood Insurance Study for Lexington County in November 1978. Discharge-Frequency relationships for these stream reaches are given in Table 1.

TABLE 1

DISCHARGE FREQUENCY DATA
KINLEY CREEK AND TRIBUTARY K-2
LEXINGTON COUNTY, SC

LOCATION	D. A. SQ MI	Recurrence Interval 10-YR (cfs)	50-YR (cfs)	100-YR (cfs)	500-YR (cfs)
KINLEY CREEK					
At Mouth	7.0	2,280	3,440	3,880	5,570
Below Trib. K-2	4.6	1,850	2,790	3,150	4,520
Above Trib. K-2	3.5	1,510	2,390	2,750	4,000
Tributary K-2					
At Mouth	1.6	970	1,570	1,840	2,620
At Station 41+50	1.1	640	1,070	1,280	1,810

STUDY OBJECTIVES

13. The objectives of this phase of the investigation are to determine the feasibility of further Federal involvement in addressing the flooding problems and to develop a detailed study plan. Should further study be needed, the objectives would be to formulate alternative measures to alleviate flood damage and to select the best course of action to alleviate these problems.

PLANNING CONSTRAINTS

14. There are no major planning constraints known at this time.

POTENTIAL SOLUTIONS

15. Several alternative measures to meet the problems and needs of the area are possible; however, some of these measures are not practical or economical. Possible solutions may be divided into two broad categories of structural and nonstructural. Structural measures are designed to modify floods by altering the existing environment. These measures include alternatives which reduce flood elevations, divert floods, change the timing and duration of floods or restrict floods from portions of the flood plain. Nonstructural measures are designed to modify flood damage susceptibility and include modifications to the cultural environment by adjustment in the pattern and mode of land use, by developmental policies and by assistance to affected individuals. Also, a combination of structural and nonstructural measures is possible.

NONSTRUCTURAL MEASURES

16. Nonstructural measures do not attempt to reduce or eliminate flooding but are designed to regulate the use and development of the flood plain, thus lessening damaging effects of large floods. Nonstructural measures consist of subdivision regulations, zoning, building codes, flood proofing, evacuation, open-space development and other measures to remove properties from the flood plain.

STRUCTURAL MEASURES

17. Structural measures are designed to alleviate flood problems by reducing flood stages or by moving damageable properties from the flood plain. These measures include channel modification, dams and reservoirs, and levee construction.

18. Hydraulic Analysis. To evaluate the desirability of further Federal participation, a channel which would contain the 10-year recurrence interval discharge was designed. Three separate channel reaches were treated. Table 2 lists the pertinent data for each of these reaches.

TABLE 2
KINLEY CREEK BASIN CHANNEL DESIGNS

ITEM	REACH I	REACH II	REACH III
STREAM:	KINLEY	K-2	K-2
Starting Station	88+50	0+00	19+00
Ending Station	93+50	19+00	40+00
Reach Length (Feet)	500	1900	2100
Design Discharge (CFS)	1850	970	800
Side Slope	2.5 to 1	2.5 to 1	2.5 to 1
Bottom Grade	.0045	.0080	.0055
Bottom Width (Feet)	25	20	20
Depth (Feet)	6	4	4

PROJECT COSTS

19. The total first cost for constructing the above-described plan would be about $210,000. Cost estimates are based on preliminary data and will be modified as more data becomes available. Annual charges, estimated at $24,000, are based on the prevailing Federal interest rate of 7 7/8% and a project life expectancy of 50 years. The $24,000 annual charge includes $7,000 for annual maintenance.

PROJECT BENEFITS

20. Construction of the previously-described plan would provide direct flood damage reduction benefits in the area adjacent to Kinley Creek and K-2. Damages to the 63 residences evaluated would be reduced by approximately $148,000 annually.

21. Flood damage reduction would be afforded to all structures within the 10-year flood plain. First floor inundation would not begin until the 50-year frequency flood had been exceeded. Only one residence would continue to have first-floor inundation during a 100-year event.

BENEFIT/COST COMPARISON

22. The following tabulation illustrates the benefit/cost comparison of the plan evaluated during the reconnaissance investigation. Due to the nature of reconnaissance studies, economic data shown is considered preliminary and subject to change during detailed investigations.

TABLE 3
BENEFIT-COST COMPARISON

Total Annual Flood Reduction Benefits	$148,000
Annual Project Costs	$24,000
Benefit-to-Cost Ratio	6.1

FEDERAL RESPONSIBILITIES

23. Project construction cost for flood control measures implemented through Section 205 of the 1948 Flood Control Act, as amended, are apportioned in accordance with traditional cost allocation procedures. In summary, the Federal government should bear the cost of project construction, excluding all costs allocated to bridge or utility modifications and to the acquisition of project-related lands. In addition, the Federal government would bear the cost of preliminary feasibility investigations and under existing regulations the detail design documents. Under the Administrations proposed cost sharing policy, however, the local sponsor would be required to pay 50% of the detail design studies and a minimum of 35% of construction costs.

NON-FEDERAL RESPONSIBILITIES

24. Section 205 projects are local participation projects and require non-Federal participation for acquisition of project-related lands and for cost allocated to bridge and utility modifications. The following items of local cooperation would be required for implementation of a flood control project on Kinley Creek, Lexington County, South Carolina. Local project sponsors would be required to:

a. Provide without cost to the United States all lands, easements, and rights-of-way, including disposal areas as determined by the Chief of Engineers, necessary for project construction;

b. Accomplish without cost to the United States all alterations and relocation of buildings, transportation facilities, storm drains, utilities, and other structures made necessary by project construction;

c. Hold and save the United States free from damages due to construction, operations, and maintenance of the project, provided damages are not due to the fault or negligence of the United States or its contractors;

d. Maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of Army;

e. Prescribe and enforce regulations to prevent obstructions or encroachments on the channels or other flood control works which would reduce their flood-carrying capacity or hinder maintenance and operation, and control development in the project areas to prevent unwise development; and

f. Periodically inform residents of affected areas that channel improvement will not provide complete flood protection;

g. Provide all Federal cost which exceed the statuatory limitations for Federal participation currently established as $4,000,000.

WORK PROGRAM

25. Work items considered necessary in preparing an expanded reconnaissance report on flood problems in Kinley Creek are summarized below. The refined studies expected in the Detailed Project Study will also be discussed in this summary. A PB-6 which gives a breakdown of cost for the three stages of study preparation is attached as Inclosure 5.

a. Public Coordination. During the expanded reconnaissance close coordination between planning elements, local governmental representatives and local residents will be maintained. Identification of a local sponsor for the DPS and an indication of willingness and ability to contribute 50% of the cost of that phase will also be accomplished in this study stage. A late stage plan formulation meeting will be held to obtain local views on alternative plans of improvement before selection of a recommended plan and finalization of the DPS.

b. Environmental Studies. A detailed inventory of the environmental resources present along the flood plain and project impact areas will be prepared. This information will be used to determine what the impacts of various alternatives will be on the environment of the study area and to evaluate ways to enhance the environment and/or ameliorate the adverse effects that potential alternatives could have. Finalization and report write-up will be prepared in the DPS.

A cultural resources reconnaissance will be made of the study area with primary emphasis along the immediate project impact area. This will serve to identify either known or possible archeological and historical sites within the study area. The study will be done in the expanded reconnaissance report.

c. Fish and Wildlife Studies. In accordance with the agreement between the Corps of Engineers and the United States Fish and Wildlife Service, Department of the Interior (USFWS), the Fish and Wildlife Service will conduct appropriate studies to furnish the required Coordination Act Report.

d. Hydrology and Hydraulic Studies. Hydrology and hydraulic studies will be conducted in sufficient detail in the expanded reconnaissance report to identify flood prone areas and delineate the flood plain. Flood profiles for existing conditions and for various plans of improvement will be developed for the appropriate recurrence interval events and the SPF utilizing computed flows and the HEC 2 backwater computer program. Design details for the selected plan will be completed in the Detailed Project Study at which time the H & H appendix will be finalized.

e. Economic Studies. Economic projections will be made to determine future needs of the basin area. Economic analyses will include comparison of cost and benefits of alternative plans. Engineering surveys will be conducted to determine the first-floor elevation of approximately 200

structures located within the flood plain. Field interviews and questionnaires will be used to determine historical and potential flood damages. The nature and extent of flood damages will be determined for residential property, roads and bridges, business losses, and emergency costs. Real estate studies will be conducted to determine the value of damageable property. Damages will also be estimated for the future "Do Nothing" alternative.

Any reasonable alternative for correcting the flood problem will be analyzed and displayed in order to determine the most desirable plan of action. This will include both nonstructural and structural alternatives.

Economic base studies of existing and base year conditions will be completed in the expanded reconnaissance as will the initial screening of an array of alternatives based on a preliminary appraisal of costs, benefits, and environmental impacts. DPS evaluations will deal with refining assessments of outputs of alternatives remaining or developed beyond the preliminary appraisal.

f. Project Management. The Project Manager will be responsible for overseeing the overall study process and coordinating the efforts of the various study disciplines.

g. Design and Cost Estimates. During the expanded reconnaissance studies design and cost estimates for all alternative plans will be made in sufficient detail to enable the formulation of a best plan of action. In the DPS additional design efforts and refined cost estimates will be made for the selected plan.

h. Surveys. For the expanded reconnaissance study cross sectional surveys will be obtained at each bridge crossing, 50 feet upstream and downstream of each bridge crossing, and every 400 feet between bridges.

i. Foundation and Material Investigations. Jet probings would be obtained at specified intervals to determine type of material to be excavated. These investigations will be done during the DPS stage.

j. Real Estate Studies. Real estate studies will be made by Savannah District. The expanded reconnaissance study will require estimates of the value of the structures in the flood prone area. Refined lands costs will be needed in the DPS stage.

k. Project Formulation. Plan formulation in the expanded reconnaissance study will include working with study team members to formulate a reasonable array of viable alternatives and evaluating the impact of these alternatives in order to select the EQ, NED, and recommended plans of improvement. In the DPS stage, this array will be refined and possibly added to in order to develop the best plan possible to meet Federal and local objectives.

l. Preparation of Report. The expanded reconnaissance report will be in sufficient detail to lead the reader to an understanding of the various alternatives screened and to show justification for the recommended

detailed studies. The DPS report will cover the complete decision process and will contain necessary appendixes to explain in detail the results of the various elements.

CONCLUSIONS

26. The flood problems identified and potential alternatives to these problems are within the scope of the Section 205 program. The estimated cost of completing a detailed investigation of the flood prone area is $114,000 for the expanded reconnaissance reports and $56,000 for the Detailed Project Study. It will take 6 to 8 months to complete the expanded reconnaissance work.

RECOMMENDATIONS

27. Based upon information presented in this report, it is recommended that further study of flood problems in Kinley Creek be authorized. Estimated study cost for completion of an expanded reconnaissance report is $114,000. It is recommended that funds in this amount be allocated to Charleston District as soon as practical in order that the subject study may be pursued. Costs for preparation of this reconnaissance report were approximately $7,500. Request for reimbursement of these funds will be made by separate correspondence after final approval of this report.

F. L. SMITH, JR.
LTC, Corps of Engineers
Commanding

5 Incl.
as

COUNTY OF LEXINGTON, SOUTH CAROLINA

COUNTY ADMINISTRATION BUILDING • LEXINGTON, SOUTH CAROLINA 29072 • (803) 359-8000

March 8, 1983

Lt. Col. B. E. Stalmann, P. E.
District Engineer
U. S. Army Engineer District, Charleston
P. O. Box 919
Charleston, South Carolina 29402

Dear Lt. Col. Stalmann:

On behalf of concerned citizens of Lexington County who are interested in obtaining assistance in controlling localized flooding problems, Lexington County requests the Corps of Engineers to undertake a study under Section 205 of the 1948 Flood Control Act, as amended, to determine the nature, costs, and justification of necessary flood control and protection measures.

The Kinley Creek channel has limited storm drainage carrying capacity and the homes constructed adjoining : have been flooded at various times during the last several years. Along with the property owners this flooding problem has been identified by (1) a storm drainage overview for the Central Midlands Region published in June, 1974, and (2) FEMA flood insurance maps, technical data furnished by the Corps of Engineers. The drainage area is approximately 4,500 acres in size and contributes storm water at the rate of 2,300 cubic feet per second to the Saluda River basin during the ten (10) year return frequency.

It is understood that this study must be sponsored by a legally-constituted public body fully authorized under State laws to provide all required local cooperation, and to execute an agreement to this effect with the Secretary of the Army under the provisions of Section 221 of the Flood Control Act of 1970. Lexington County Council is a public body organized under the South Carolina Constitution with the legal capacity to enter such agreements and will act as sponsor for the work requested.

Lexington County is familiar with the general requirements of local cooperation and is willing to agree to them if the project plan developed in initial planning is of the nature and scope acceptable to the County and within its financial means.

Your prompt attention to this request will be greatly appreciated.

Sincerely,

Jerrod F. Howard
Chairman, Lexington County Council

JFH:jb

Incl 1

COUNTY OF LEXINGTON, SOUTH CAROLINA

COUNTY ADMINISTRATION BUILDING • LEXINGTON, SOUTH CAROLINA 29072 • (803) 359-8000

March 8, 1983

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U. S. Army Engineer District, Charleston
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A tributary of Kinley Creek known as K-2 has limited storm drainage carrying capacity and the homes constructed adjoining it have been flooded at various times during the last several years. Along with the property owners this flooding problem has been identified by (1) a storm drainage overview for the Central Midlands Region published in June, 1974, and (2) FEMA flood insurance maps, technical data furnished by the Corps of Engineers. The drainage area is approximately 1,024 acres in size and contributes storm water at the rate of 970 cubic feet per second to the Kinley Creek drainage basin during the ten (10) year return frequency.

It is understood that this study must be sponsored by a legally-constituted public body fully authorized under State laws to provide all required local cooperation, and to execute an agreement to this effect with the Secretary of the Army under the provisions of Section 221 of the Flood Control Act of 1970. Lexington County Council is a public body organized under the South Carolina Constitution with the legal capacity to enter such agreements and will act .. sponsor for the work requested.

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Sincerely,

Jerrod F. Howard
Chairman, Lexington County Council

JFH:jb

Incl 2

ENVIRONMENTAL CONSIDERATIONS

General Descriptions. The Kinley Creek study area is located in Lexington County, South Carolina, approximately five miles west of the City of Columbia. Kinley Creek is a tributary of the Saluda River. The Kinley Creek drainage area encompasses 17.7 square miles.

The study area is composed mainly of rapidly expanding residential development and commercial establishments. Much of the creek runs through residential developments. Consequently, most of the channel has been altered in the recent past. Most riparian vegetation has been removed or replaced with ornamental plantings with the exception of a few areas of undisturbed habitat which occurs in short dispersed reaches of the creek. Kinley Creek is a relatively small stream varying in width from three to 20 feet. Several domestic sewage treatment systems discharge into the creek.

Flora. Vegetation in the study area has been altered and consists mainly of landscape varieties with the exception of a few areas. These unaltered areas contain vegetation typical of lower Piedmont flora. Overstory species include sweetgum, hackberry, oak, pine, and maple. Understory and ground cover consists of willow, alder, ironwood, honeysuckle, and various sedges and grasses.

Fauna. Most wildlife species associated with bottomland flora in a suburban setting can be expected to occur in the Kinley Creek study area. No unusual or critical terrestrial habitat is likely or known to exist in the study area.

Fish. Kinley Creek is a narrow, shallow stream with an insignificant fishery. Two impoundments located off Beaverdam Road and Harbison Road provide significant fishery and other water related activities. However, these impoundments would be unaffected by the project.

Threatened and Endangered Species. There are no known endangered or threatened species in the study area, and it is highly unlikely any are present. However, a list of endangered and threatened species will be requested from the Office of Endangered Species, USF&WS.

Cultural Resources. The National Register of Historic Sites does not list any sites within the study area. There are no known archeological sites within the study area. An inspection of the area by members of the study team did not reveal any significant cultural resources. A cultural resources reconnaissance will be included in any further study.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
P.O. BOX 12559
217 FORT JOHNSON ROAD
CHARLESTON, SOUTH CAROLINA 29412

June 30, 1983

Lt. Colonel Bernard E. Stalmann
District Engineer
U.S. Army Corps of Engineers
P.O. Box 919
Charleston, South Carolina 29402

Re: Kinley Creek Reconnaissance Study, Richland and Lexington Counties, S.C.

Dear Colonel Stalmann:

This letter is provided in response to the reconnaissance study being conducted by your staff on Kinley Creek in Richland and Lexington counties, S.C. Our comments are provided pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

On April 29, 1983, Mr. Prescott Brownell conducted a preliminary survey of fish and wildlife habitats present in the Kinley Creek basin.

Existing Fish and Wildlife Resources

Kinley Creek originates within the town limits of Irmo and flows 5-6 miles to join the Saluda River approximately one mile upstream from the Interstate Highway 20 bridge. The Kinley Creek basin above the CN & L railroad contains predominantly high density residential and commercial lands with only small remnant forested tracts bordering the stream in isolated areas. Below the railroad right-of-way for approximately 3/4 mile to the Saluda River, the Kinley Creek floodplain is predominantly undeveloped.

Wildlife habitat values are low in the majority of the basin due to extensive development. However, small forested tracts within the floodplain provide aesthetic values and provide habitat for wildlife species adapted to urbanized areas. Various songbirds and the gray squirrel depend upon small woodlots in urban areas for refuge, breeding, and feeding habitat. The floodplain below the CN & L railroad contains larger tracts of undeveloped forested habitat and can be expected to provide habitat for larger forest game species, possibly including the white-tailed deer.

Incl 4

Fishery habitat in Kinley Creek has been severely degraded due to siltation and the presence of several sewage discharges from residential developments. Currently the best fishery habitat exists within the several small private ponds present within developed areas, and within the channel below the CN & L railroad bridge.

Although a preliminary survey of Kinley Creek habitats did not reveal the presence of endangered or threatened species, we recommend that you request an official list of species from our Endangered Species staff. Your request for the list should be addressed to the Field Supervisor, Office of Endangered Species, U.S. Fish and Wildlife Service, Plateau Building, Room A-5, 50 South French Broad Avenue, Asheville, North Carolina 28801.

Estimated FWCA Study Costs

The Service has identified the following work items and costs as the minimum requirements in order to adequately address fish and wildlife resources in the study area, and to provide a sound basis for our direct participation in project planning:

Work Items	Biologist Days
Field surveys	2
Habitat mapping	2
Literature review	1
Resource use assessment	1
Evaluation of alternatives	2
Coordination	1
Report preparation	5
	14

Cost/biologist day	$275
Total Funding	$3,850

We look forward to participation with your study team during planning efforts on the Kinley Creek study.

Sincerely yours,

Roger Banks

Roger L. Banks
Field Supervisor

RLB/PB/lm

STUDY COST ESTIMATE (PB-6)
(6000)
For use of this form, see ER 11-2-220

APPROPRIATION TITLE: General Investigations

CATEGORY: FLOOD CONTROL

CLASS: Local Protection

NAME OF STUDY: Kinley Creek
Lexington County, SC

SUBCLASS: Section 205

LINE NO.	SUBACCOUNT NUMBER	SUBACCOUNT TITLE	CURRENT FEDERAL COST ESTIMATE ACCOUNT RECON	ACCOUNT EXPANDED RECON	ACCOUNT D.P.S.	TOTAL	PREVIOUS FEDERAL COST ESTIMATE AND DATE APPROVED ( )	REMARKS
	a	b	c	d	e	f	g	h
1		Public Coordination	0.5	3.0	3.0	6.5		
2		Environmental Studies	1.0	2.5	1.0	4.5		
3		F & W Services	-	4.0	-	4.0		
4		H & H Studies	1.5	42.0	18.5	62.0		
5		Economic Studies	1.5	30.0	10.0	41.5		
6		Project Management	0.5	9.0	5.0	14.5		
7		Design & Cost Estimates	0.5	1.0	3.0	4.5		
8		Surveys		8.0	2.0	10.0		
9		Foundation and Material		-	3.0	3.0		
10		Real Estate		4.0	1.0	5.0		
11		Project Formulation	0.5	2.0	1.0	3.5		
12		Preparation of Report	1.5	7.5	8.5	17.5		
13		Cultural Resource Studies		1.0		1.0		
14		TOTAL	7.5	114.0	56.0	177.5		

DATE PREPARED:

DIVISION: SOUTH ATLANTIC
DISTRICT: CHARLESTON

REGION: SOUTH ATLANTIC - GULF
BASIN:

Page 1 of 1

FMC FORM 2206 EDITION OF 4 JAN 71 IS OBSOLETE.

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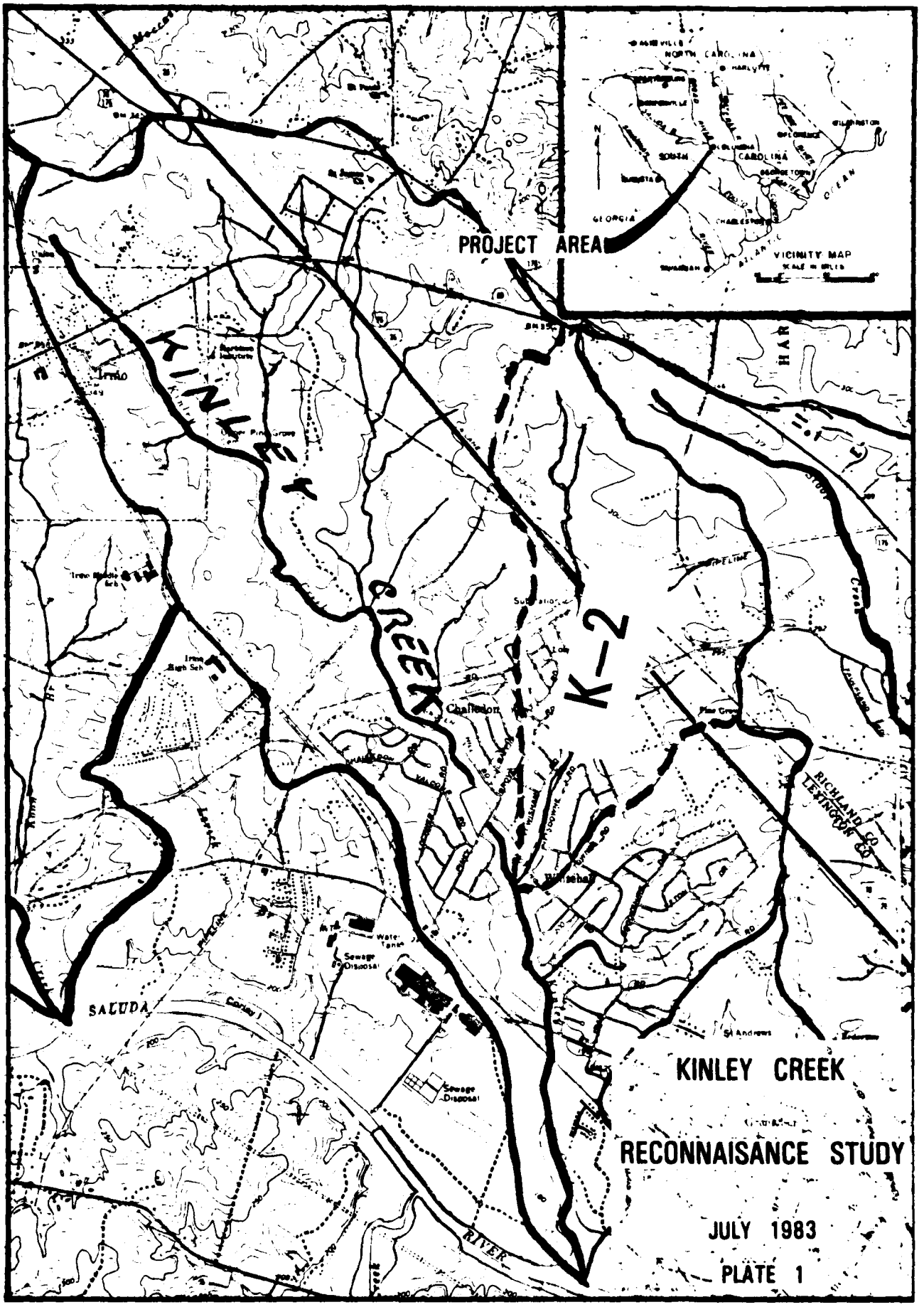
PROJECT AREA
VICINITY MAP
KINLEY CREEK
K-2
SALUDA
RIVER
KINLEY CREEK
RECONNAISANCE STUDY
JULY 1983
PLATE 1